

Application No. 10/068,103
Amendment "F" dated November 19, 2004
Reply to Office Action mailed August 23, 2004

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Previously Presented) A dental device as recited in claim 46, wherein the means for emitting radiant energy comprises a light source having at least one LED.
3. (Cancelled)
4. (Previously Presented) A dental device as recited in claim 2, further including power supply wires disposed within the body and in order to permit electrical connection of the at least one LED to the remotely located power supply.
5. (Currently Amended) A dental device as recited in claims ~~146~~ or 2, further comprising controls disposed on the body for controlling operation of the means for emitting radiant energy.
6. (Original) A dental device as recited in claim 5, wherein the controls include a first button for activating the light source for a predetermined duration of time.
7. (Original) A dental device as recited in claim 6, wherein the controls further include at least one button for altering the predetermined duration of time.
8. (Cancelled)

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9. (Currently Amended) A dental device as recited in claim ~~146~~, further comprising a transilluminating lens disposed at the distal end of the dental device adjacent to the means for emitting radiant energy.

10. (Previously Presented) A dental device as recited in claim 9, wherein the transilluminating lens is configured to filter out undesired wavelengths of light.

11. (Original) A dental device as recited in claim 9, wherein the transilluminating lens is fixedly connected to the dental device.

12. (Currently Amended) A dental device as recited in claims ~~1-46~~ or 2, wherein the dental device further comprises a heat sink configured so as to draw away and dissipate heat generated by the means for emitting radiant energy.

13. (Original) A dental device as recited in claim 12, wherein the light source is mounted on the heat sink.

14. (Original) A dental device as recited in claim 12, wherein the heat sink comprises at least one of aluminum, brass, copper, steel or silver.

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15. (Currently Amended) In a system that includes a holding tray comprising one or more recesses, at least one of which is for receiving a dental device used in curing light-curable compounds, so as to hold the dental device in a convenient, generally upright fashion for easy grasping, and a remote power supply for providing power to the dental device, an improved dental device configured for curing light-curable compounds comprising:

an elongate body extending between a proximal end and a distal end, the proximal end of the body being tapered and comprising a configuration in size and shape that securely fits into the at least one recess of the holding tray;

a light source disposed at the distal end of the body, and with a fixed orientation that is substantially normal to the body, the light source generating light suitable for curing light-curable compounds, the light source and distal end of the body together comprising means for being inserted and rotated within the mouth of a patient for direct application of the curing light within the patient's mouth, so as to eliminate any need for a light guide to direct the curing light; and

a power cord extending from the proximal end of the body and operably connecting the dental device with a remotely located power supply.

16. (Previously Presented) A dental device as recited in claim 15, wherein the light source comprises at least one LED.

17. (Previously Presented) A dental device as recited in claim 15, wherein at least a portion of the body is substantially cylindrical.

18. (Previously Presented) A dental device as recited in claim 15, further comprising a lens connected to the distal end of the dental device.

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19. (Currently Amended) A dental kit comprising:

a dental curing device configured for curing light-curable compounds and that comprises:

a light-weight, hand-held elongate body extending between a proximal end and a distal end, wherein the proximal end of the body is being tapered to facilitate insertion of the dental device into a slot of a holder and comprising a configuration in size and shape that securely fits into at least one recess of the holding tray;

a light source disposed at the distal end of the body, and with a fixed orientation that is substantially normal to the body, the light source generating and configured to emit a light suitable for curing light-curable compounds, the light source and distal end of the body together comprising means for being inserted and rotated within the mouth of a patient for direct application of the curing light within the patient's mouth, so as to eliminate any need for a light guide to direct the curing light; and

a power cord extending from the proximal end of the body and operably connecting the dental device with a remotely located power supply a body extending between a proximal end and a distal end, wherein the proximal end of the body is tapered to facilitate insertion of the dental device into a slot of a holder; and

a light source disposed at the distal end of the body and configured to emit light suitable for curing light curable compounds; and

a holder that comprises:

an inner surface that defines ~~the~~ a slot of the holder and that is configured in size and shape to frictionally engage at least a portion of the tapered proximal end of the dental device body; and

connecting means for connecting the holder with another device.

20. (Original) A dental kit as recited in claim 19, wherein the connecting means is configured for connecting the holder with a standard dental hand piece holding tray.

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21. (Currently Amended) A dental kit as recited in claim 19, wherein the proximal end of the body is tapered and includes a substantially cylindrical round cross-section, and wherein the holder defines a slot through which the power cord can freely pass.

22. (Previously Presented) A dental device as recited in claim 46, wherein the proximal end of the body has a size and shape that is substantially identical to the size and shape of a corresponding end of at least one dental hand piece selected from the group consisting of low speed dental turbines, high speed dental turbines, ultrasonic dental devices, 3- way dental syringes, and oral suctioning devices.

23. (Previously Presented) A dental device as recited in claim 46, wherein the body has a size and shape that approximates the size and shape of a standard dental hand piece.

24. (Previously Presented) A dental device as recited in claim 23, wherein the body has a size and shape that approximates the size and shape of at least one of a low speed dental turbine, a high speed dental turbine, an ultrasonic dental device, a 3- way dental syringe, or an oral suctioning device.

25. (Previously Presented) A dental device as recited in claim 15, wherein the proximal end of the body has a size and shape that is substantially identical to the size and shape of a corresponding end of at least one dental hand piece selected from the group consisting of low speed dental turbines, high speed dental turbines, ultrasonic dental devices, 3- way dental syringes, and oral suctioning devices.

26. (Previously Presented) A dental device as recited in claim 15, wherein the body has a size and shape that approximates the size and shape of a standard dental hand piece.

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27. (Previously Presented) A dental device as recited in claim 26, wherein the body has a size and shape that approximates the size and shape of at least one of a low speed dental turbine, a high speed dental turbine, an ultrasonic dental device, a 3-way dental syringe, or an oral suctioning device.

28. (Previously Presented) A dental device as recited in claim 15, the dental device further comprising a heat sink onto which at least a portion of the light source is mounted, the heat sink being configured so as to draw away and dissipate heat generated by the light source and comprising at least one metal.

29. (Previously Presented) A dental kit as recited in claim 19, wherein the inner surface of the holder is tapered.

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30. (Currently Amended) A system for providing a plurality of dental treatments, comprising:

a dental hand piece holding tray;

at least two recesses associated with the dental hand piece holding tray, each recess being sized and configured to receive therein at least one type of dental hand piece;

a first dental hand piece comprising a dental curing device configured to cure light-curable compounds, the dental curing device comprising:

a light-weight, hand-held elongate body extending between a proximal end and a distal end, the proximal end of the body being tapered and comprising a configuration in size and shape that securely fits into the at least one recess of the holding tray;

a light source disposed at the distal end of the body, and with a fixed orientation that is substantially normal to the body, the light source generating light suitable for curing light-curable compounds, the light source and distal end of the body together comprising means for being inserted and rotated within the mouth of a patient for direct application of the curing light within the patient's mouth, so as to eliminate any need for a light guide to direct the curing light; and

a power cord extending from the proximal end of the body and operably connecting the dental device with a remotely located power supply; a body extending between a proximal end and a distal end, the proximal end being tapered to facilitate insertion of the first dental hand piece into at least one of the recesses associated with the dental hand piece holding tray; and

a light source disposed at the distal end of the body and configured to emit radiant energy suitable for curing a light-curable compound; and

at least one additional dental hand piece configured to be received within at least one of another of the recesses associated with the dental hand piece holding tray, wherein the at least one additional dental hand piece is selected from the group consisting of low

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speed dental turbines, high speed dental turbines, ultrasonic dental devices, 3-way dental syringes, and oral suctioning devices.

31. (Previously Presented) A system as defined in claim 30, wherein the recesses associated with the dental hand piece holding tray comprise holders that are removably attached to the dental hand piece holding tray.

32 -- 39 (Cancelled)

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40. (Currently Amended) In a system that includes a holding tray comprising one or more recesses, at least one of which is for receiving a dental device used in curing light-curable compounds, so as to hold the dental device in a convenient, generally upright fashion for easy grasping, and a remote power supply for providing power to the dental device, an improved dental device configured for curing light-curable compounds comprising:

an elongate body extending between a proximal end and a distal end, said proximal end comprising a tapered portion adapted to be received within the at least one recess of the holding tray;

an LED light source disposed at the distal end of the body, said LED light source, when activated, ~~emitting-generating~~ light suitable for curing a light-curable compound within the mouth of a patient, said LED light source being laterally positioned in relation to said body so that emitted light is in a direction that is essentially normal to the body, and said LED light source and distal end of the body together comprising a configuration in size and shape to permit insertion and positioning in a patient's mouth to thereby enable direct application of the ~~emitted-generated~~ light within the patient's mouth, and so as to eliminate the need for a light guide for transmitting the ~~emitted-generated~~ light into the patient's mouth;

a heat sink disposed in contact with the LED light source so as to draw away and dissipate heat generated by the LED light source;

a transilluminating lens removably attached to the distal end of the dental device and positioned so that light generated by the light source passes through the transilluminating lens; and

a power cord extending from the proximal end of the body and operably connecting the dental device with a remotely located power supply.

41. (Previously Presented) A dental device as recited in claim 40, wherein the elongate body extends substantially along a single central axis.

42. (Previously Presented) A dental device as recited in claim 40, wherein the LED light source is perpendicularly disposed at the distal end of the body in order to emit light in a direction that is substantially perpendicular to the body;

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43. (Cancelled)

44. (Previously Presented) A dental device as recited in claim 40, wherein the LED light source is adjacent to the heat sink.

45. (Cancelled)

46. (Currently Amended) A relatively light weight, hand-held dental device for curing light-curable compounds, and that is adapted for use in a system that includes a holding tray comprising one or more recesses, at least one of which is for receiving the dental device so as to hold the dental device in a convenient, generally upright fashion for easy grasping, and a remote power supply for providing power to the dental device, the dental device comprising:

means for defining a generally elongated, ~~light weight, slender~~ body that extends substantially along a single central axis for enabling the dental device to be held and easily rotated into various positions when using the dental device for curing procedures in a patient's mouth, said body comprising distal and proximal ends;

means, disposed at the distal end of the dental device, for generating and emitting radiant energy directly to a light-curable compound within a patient's mouth, said radiant energy being suitable for curing light-curable dental compounds;

means, disposed at a proximal end of the dental device, for providing a fit that adapts the dental device for securely sitting in an essentially elongated, upright fashion within the at least one recess of the holding tray when it is not in use; and

a power cord extending from the body means for adapting the dental device for operable connection with the remotely located power supply.